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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,954	02/20/2004	Kai Lehmann	MB 386	4795

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EXAMINER	
RIDDLE, KYLE M	
ART UNIT	**PAPER NUMBER**
3748	

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/783,954	LEHMANN ET AL.	
	Examiner	Art Unit	
	Kyle M. Riddle	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-10 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-10 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 20 February 2004 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 02202004.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings filed on 20 February 2004 are acceptable subject to correction of the informalities indicated on the attached "Notice of Draftsperson's Patent Drawing Review," PTO-948. In order to avoid abandonment of this application, correction is required in reply to the Office action. The correction will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:

- Page 1, line 19, "cylinderhead" should read --cylinder head-- for consistency;

- Page 3, line 4, "cylinder-head" should read --cylinder head-- for consistency;

- Page 3, line 19, "cylinderhead" should read --cylinder head-- for consistency;

- Page 3, line 22, "cylinder-head" should read --cylinder head-- for consistency.

Appropriate correction is required.

Claim Objections

3. Claims are objected to because of the following informalities:

- Page 6, claim 1, second to last line of the claim, "cylinder-head" should read --cylinder head-- for consistency;

- Page 6, claim 3, line 2 of the claim, "cylinder-head" should read --cylinder head-- for consistency;

- Page 7, claim 7, line 2 of the claim, "inlet-" should read --inlet--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 6-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Satou (U.S. Patent 5,301,639).

Satou discloses a valve timing control device comprising a camshaft 1 and driven sprocket 2 having their relative rotational positions adjusted with respect to one another (column 7, lines 44-48), a bearing or camshaft sleeve 3 mounted on an end portion of camshaft 1 (column 3, lines 53-55) and covered by housing 11 (column 4, lines 35-38, lines 46-52, and Figures 4 and 5), a valve control timing device accommodated with a housing 11 secured to a cylinder head 9 (column 4, lines 36-39), a hydraulic control valve 17 disposed at a position offset from camshaft 1 (column 6, lines 27-30), the camshaft 1 having an oil passageway 27 for providing pressurized oil to control valve 17 for controlling valve timing (column 9, lines 22-26), valve openings vertically extended and connected below supply oil passages 22, 23, 21' and return or drain passage 25 (column 6, lines 66-68 with column 7, lines 1-24, column 10, lines 11-28, and Figures 4 and 5).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Satou in view of Uchida (U.S. Patent 6,032,629).

Satou discloses a valve timing control device comprising a camshaft driven sprocket having their relative rotational positions adjusted with respect to one another, a bearing or camshaft sleeve mounted on an end portion of camshaft and covered by housing, a valve control timing device accommodated with a housing secured to a cylinder head, a hydraulic control valve disposed at a position offset from camshaft, the camshaft having an oil passageway for providing pressurized oil to control valve for controlling valve, valve openings vertically extended and connected below supply oil passages and return or drain passage. Satou, however, fails to disclose the control valve mounted in the camshaft bearing.

Uchida teaches a variable valve timing arrangement with variable valve mechanisms to change the phase of the camshaft 24, 25 with the crankshaft (column 4, lines 13-17) and the control valve mounted in the bearing member (column 6, lines 35-37 and Figure 2). It would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the teaching by Uchida in the valve system of Satou, since the use thereof would have provided an additional mounting technique of the hydraulic control valve in close proximity to the camshaft further reducing leakage and pressure losses.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being obvious over Satou.

Satou discloses the variable timing control device cited above, however, fails to disclose mounting the control valve in the crankcase.

Satou teaches mounting the control valve 17 in a housing 11 of the cylinder head 9 (column 6, lines 27-30, Figures 4 and 5). The mounting of the control valve in a crankcase location would have been obvious to one having ordinary skill in the art depending on space requirements, pressure in fluid lines and length of fluid lines, etc. Moreover, there is nothing in the record which establishes that the application of such represents a novel or unexpected result (See *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975)).

Conclusion

9. The IDS (PTO-1449) filed on 20 February 2004 has been considered. An initialized copy is attached hereto.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of 7 patents.

- Golovatai-Schmidt et al. (U.S. Patent 5,540,197) disclose a valve timing adjusting device with a connecting bracket for the camshaft and control valve interchange.

- Moriya (U.S. Patent 5,785,026) discloses a variable valve timing mechanism with the camshaft disposed in the cylinder head and bearing cap.

- Moriya (U.S. Patent 5,803,031) discloses a hydraulic actuator with the camshaft disposed in the cylinder head and bearing cap.

- Yoshikawa et al. (U.S. Patent 5,954,019) disclose a variable valve timing arrangement with the control valve operated with lubricant provided through a bearing surface of the camshaft.

- Uchida (U.S. Patent 6,035,817) discloses a variable valve timing arrangement with control valves mounted in a combined bearing and valve body member.

- Takahashi (U.S. Patent 6,076,492) discloses a cylinder head for variable valve timing with the control valve mounted in a bore of a combined bearing and valve body member.

- Kunne et al. (U.S. Patent 6,675,752) disclose a hydraulic camshaft adjuster with grooves in rings around the camshaft to deliver fluid to the hydraulic control valve.

Communication

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle M. Riddle whose telephone number is (703) 306-3409. The examiner can normally be reached on M-F (07:30-5:00) Second Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (703) 308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kyle M. Riddle
Examiner
Art Unit 3748

kmr

Thomas Denion

THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700